UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105

MAR 19 1998

Bureau of Land Management
Attn: Douglas Romoli
1661 South 4th Street
El Centro, California 92243

Dear Mr. Romoli:

The U.S. Environmental Protection Agency (EPA) has reviewed the Draft Environmental Impact Statement (DEIS) for the **Imperial Project, Imperial County, California**. The DEIS replaces a previous, and subsequently withdrawn, DEIS, dated November 1996, and contains substantial revisions and additional analyses and assessment of the potential environmental effects of the proposed action. Our comments are provided pursuant to the National Environmental Policy Act (NEPA), the Council on Environmental Quality's NEPA Implementation Regulations at 40 CFR 1500-1508, and Section 309 of the Clean Air Act.

The DEIS analyzes the impacts of a proposed precious metal mining project which would, under BLM's preferred alternative (the project), involve excavation of three open pits, construction and operation of a heap leach facility, creation of two overburden rock piles, and construction/operation of ancillary facilities, including a well field/pipeline and access road realignment and power line modifications. The project would disturb approximately 1362 acres over a period of about twenty years and involve the excavation of up to 150 million tons of ore and 300 million tons of waste rock.

EPA has been previously involved with the Imperial Project. In addition to our comment letter, dated January 31, 1997, addressing the earlier DEIS, our Water Office reviewed a jurisdictional determination of the "waters of the United States," which included a field visit to the site on June 17, 1997. The U.S. Army Corps of Engineers (Corps) has responsibility to ensure compliance with the 404 program; however, under memorandums of understanding between the Corps and EPA, EPA has authority in jurisdictional determinations, enforcement/permit review, and mitigation guidance.

We have rated this DEIS EO-2 -- Environmental Objections-Insufficient Information. (See the enclosed "Summary of Rating Definitions and Follow-up Action"). *This rating reflects* our objections over potential impacts to approximately 77 acres of "waters of the United States" which could conceivably be avoided or minimized by project modification or implementing other feasible alternatives. We commend BLM for acknowledging several of the comments we made

on the withdrawn version of the November 1996 DEIS, specifically those concerning the need for a CWA Section 404(b)(1) analysis. However, the analysis included as an appendix in the new DEIS, contains insufficient information to determine whether the preferred alternative is truly the least environmentally damaging practicable alternative pursuant to Section 404.

In addition, we believe that other critical issues such as the anticipated impact to Native American cultural and paleontological resources, and the associated impacts to sacred sites add controversy to the proposal and lowers the threshold for determining the significance of the overall project's environmental impacts. EPA's objections and concerns are discussed in greater depth in our detailed comments, enclosed.

We appreciate the opportunity to review this DEIS and will contact you in the near future to discuss our objections and concerns. We request that two copies of the FEIS be sent to this office, attention David Farrel, at the letterhead address (mail code CMD-2) when it is officially filed with our Washington, D.C., office. Should you have any questions, please contact me at (415) 744-1566, David Farrel (Federal Activities Office Chief) at (415)744-1584, or Karl Kanbergs of the Federal Activities office at (415) 744-1483.

Sincerely,

Deanna M. Wieman, Deputy Director
Cross-Media Division

002423/97-359
Enclosures (2)
cc: John L. Morrison, Imperial County Planning/Building Dept.

ALTERNATIVES ANALYSIS AND PROJECT PURPOSE

NEPA

In section 1.7 of the DEIS, entitled "Purpose and Objectives of the Proposed Action," BLM describes Glamis Imperial Corporation's (Glamis) project purpose. We presume that this section corresponds to NEPA requirements at 40 CFR 1502.13 requiring an EIS to address "Purpose and Need." BLM defines the project purpose (pg. 1-16): "...to develop and operate a mine to recover the gold and silver ore resources from these valuable mineral deposits identified on mining claims which have been staked or acquired by Glamis Imperial Corporation under the General Mining Law of 1872." EPA questions this definition. Under NEPA, a project's purpose may not be defined too narrowly, or it may limit the range of alternatives analyzed. NEPA considers alternatives analysis to be the "heart of the environmental impact statement" and requires that such analysis be rigorous and objective [40 CFR 1502.14]. BLM should also describe the project need, which is not necessarily synonymous with the listed project objectives.

Glamis Gold Limited's website home page (www.glamis.com) provides the company's mission statement which is "...being a low-cost, high-volume producer of gold in the most environmentally sound manner for the benefit of its shareholders, employees and communities." EPA suggests that project purpose and need would be to mine gold and silver in an environmentally sound manner (purpose) at a profit (need). Thus, in the alternatives section, BLM should expand its analysis of alternative potential mining sites that would have potentially less environmental impacts. Similarly, BLM should more rigorously examine the reduced size alternatives, such as the East Pit Alternative, to determine whether any of them would meet such a purpose and need.

As stated in 40 CFR 1508.27(b)(3), when determining the significance (of impacts), agencies must consider "unique characteristics of the geographic area such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic river, or ecologically critical areas." In this instance, in addition to potentially serious impacts to aquatic resources, the proposed project would have direct and possibly un-mitigable impacts to Native Americans and would be located within visual and aural distance of two wilderness areas, and in close proximity to an area of critical environmental concern and a Desert Tortoise Critical Habitat Area; within BLM's California Desert Conservation Area, and within the area of the Indian Wash Habitat Management Plan.

It is evident that the proposed action, and indeed the preferred alternative, has the potential for intense environmental impacts. Given that, we recommend that BLM seriously consider alternatives such as reducing the scale of mining operations, mining in other locations; and "no action." We also recommend that BLM identify and discuss an environmentally preferred

alternative in the FEIS, pursuant to CEQ's "40 Questions" (6a and 6b). "No action" should be factored into your analysis of the environmentally preferred alternative.

Appendix N-CWA 404(b)(1) Alternative Analysis

The draft 404(b)(1) alternatives analysis does not demonstrate compliance with EPA's 404(b)(1) Guidelines. The following comments provide the rationale for our conclusion, **within the context of CWA Section 404:**

Project Purpose - The proposed project's purpose is to mine gold and silver. For the purposes of determining compliance with 40 CFR 230.10(a), EPA Region IX considers that the term "overall project purpose" means the basic project purpose plus consideration of costs and technical and logistical feasibility. Therefore, the term "overall project purpose" should not include (1) project amenities, (2) a particular return on investment (unless a certain minimum return can be shown to render a project impracticable), (3) highest and best use of the land, or (4) certain desired size requirements. EPA Region IX consistently treats the basic project purpose as the generic function of the activity. In determining the project purpose as described above, EPA ensures that only projects that absolutely need to be sited in waters of the United States are authorized.

Geographic Scope of the Alternatives Analysis - The geographic scope proposed by the applicant is too narrow for the purposes of the alternatives analysis. In defining the project purpose as mining gold and silver, the analysis should include all areas that would be reasonable to consider in this particular industry. The FEIS should include a review of other mining districts and mining properties that Glamis Imperial Corporation has considered, or should consider, in meeting its Purpose and Need.

Mitigation and the Determination of Practicable Alternatives - In describing impacts related to Section 404 of the CWA and a determination of the proposed project as being the least environmentally damaging practicable alternative, the applicant describes mitigation measures designed to reduce potential environmental impacts to levels less than significant. We disagree with an analysis that considers mitigation before considering and undertaking avoidance of impacts. EPA's 404(b)(1) Guidelines (Guidelines) are written hierarchically to ensure that efforts are first made to achieve the objective of the CWA to eliminate all discharges of pollutants into the nation's waters. Discharges that can be avoided practicably, must be avoided. Compensatory mitigation should only be used to offset unavoidable impacts that remain.

Determination of Practicability - There is insufficient information in the draft alternatives analysis to determine practicability of the alternatives. Table A does not provide sufficient useful information. The Guidelines define practicable as available and capable of being done taking into account cost, existing technology, and logistics (40 CFR 230.10(a)(2). The conclusion in the alternatives analysis states that in evaluating the East Pit and West Pit alternatives, the amount of recoverable ore would be substantially reduced without a proportionate reduction in costs and that the operation of either alternative would exceed revenue. The applicant has provided insufficient documentation to support this conclusion. In determining practicability, a project alternative that achieves a smaller return on investment than the applicant's preferred alternative may be considered practicable for the purposes of 404 permitting, even though that alternative may not be financially acceptable to a particular applicant. In addition, it is important to note that "sunk costs" associated with one site cannot be assigned to an alternative. In evaluating alternatives under the Guidelines, these "sunk costs" cannot be added to the costs of developing a less damaging design or site.

In conclusion, a much more detailed analysis is required in order to determine compliance under EPA's 404(b)(1) Guidelines. This includes, but is not limited to, an increase in the geographic scope of the alternatives, a more thorough assessment of the direct and indirect impacts to the environment for each of the alternatives, comparisons of the costs and profits associated with ongoing gold and silver operations, and comparisons of costs and profits associated with the alternatives proposed in the DEIS.

AQUATIC RESOURCES

Surface Waters

P. 4-9 and 4-49. The Proposed Action would include the diversion of segments of five existing - ephemeral watercourses and the permanent filling or excavation of tributaries of these watercourses. All diversions divert water entering the proposed project mine and process area to other segments of these same washes, which then flow naturally through or around the proposed project mine and process area.

The DEIS states that all water entering the proposed project mine and process area would be diverted to down gradient segments of these same washes. However, the document does not account for the potential significant effects of the loss of headwater tributaries within the proposed project impact areas, which form an integral part of the watersheds of the three major washes on the site. These effects should be discussed in the FEIS.

In addition, EPA does not concur with the statement in the DEIS that there would be no substantial alteration of stream flows or patterns outside of the proposed mine and process area. We do not understand how the diversion channels approximate the channel gradient and geometry of the original drainage system. Diverting flow from a 1571-acre watershed, with dozens of tributaries, into three primary diversion channels may significantly change the hydrology and hydraulic properties of waters of the U.S. located upstream and downstream of the diversions. Increased sediment transport, acceleration of downstream erosional processes such as scour, and channel head cutting and entrenchment have the potential to adversely impact proposed revegetation of wash habitat as well as habitat upstream and downstream of the proposed project site. These issues should be discussed in the FEIS.

The DEIS states that minor, ephemeral tributaries which are truncated by certain proposed project facilities would have a reduction in runoff flow, but that this flow reduction would not be significant. Based on our review of the document, it appears that several tributaries supporting the East Pit East Wash would be directly affected by the proposed mine development activities. Sufficient supporting information for a finding of insignificant impacts to wash hydrology and existing biogeochemical processes has not been provided, but should be in the FEIS.

P. 4-13. The DEIS states that the proposed project would result in direct impacts to 77.4 acres of waters of the U.S. Indirect impacts to waters would also occur both within and immediately adjacent to the proposed project mine and process area, principally through truncation, isolation, and/or dewatering of a given reach of drainage course. The DEIS does not assess and quantify these indirect impacts. A quantitative assessment of indirect impacts should be provided in the FEIS.

Similarly, the FEIS should provide a more thorough assessment of the direct and indirect impacts on the functions performed by waters of the United States. In 1990, the EPA and Corps of Engineers signed a Memorandum of Agreement concerning the determination of mitigation under the Clean Water Act (CWA) Section 404(b)(1) Guidelines, endorsing a goal of no overall net loss of wetland values, functions, and remaining acreage base. In keeping with this goal, the FEIS should thoroughly assess impacts to functions provided by waters such as: 1) surface and subsurface water storage and exchange; 2) sediment mobilization, transport and deposition; 3) energy dissipation; 4) landscape hydrologic connections; 5) element and compound cycling; 6) maintenance of plant and animal communities; 7) maintenance of faunal interspersion and habitat connectivity; and 8) support of invertebrate and vertebrate assemblages.

Figure 2.9. This figure is difficult to evaluate. It is not possible to accurately determine the landscape context, dimensions, or general configuration of the proposed diversions. The FEIS should provide improved maps or aerials depicting the proposed diversions.

P. 4-52. EPA does not agree with the statement that the diversion channels would continue to

provide the same flow and quality of water into the major washes down gradient of the proposed project site. Such a conclusion assumes that the 77.4 acres of waters of the United States proposed to be affected is not important to the functioning of contiguous waters. The DEIS contains no information to support a finding of no change in flow parameters or water quality. The FEIS should provide a quantitative assessment of impacts from the loss of ephemeral tributaries on the hydrology, hydraulics and water quality of down gradient washes.

Following compliance with the 404(b)(1) Guidelines, the applicant must mitigate for the unavoidable impacts that remain. Additional information is needed to determine the direct and indirect impacts to waters of the U.S. Mitigation should compensate for impacts to acreage and function of waters of the United States.

P. 5-13. The DEIS does not disclose the basis for the geographical area upon which the cumulative impact analysis is based. Does the geographic area correspond to some logical physiographic, hydrologic, or biological unit? The DEIS estimates that approximately 5% of the 200,000 acres within the project area are composed of wash systems. The DEIS then assumes that 4% -8% of this 200,000 acres (7,680 -15,360 acres) is existing microphyll woodland habitat. Clearly, all the wash habitat is not microphyll woodland habitat (see Figure 3.15). BLM should quantify what proportion of wash habitat is microphyll woodland. Furthermore, we disagree with the conclusions of the DEIS that the cumulative impact on microphyll woodland habitat is below the level of significance.

Heap Leach Facilities

Additional information should be presented in the FEIS to assure the public that the proposed heap leach facilities would be very unlikely to malfunction with respect to liner rupture and/or overflow or breach due to natural or man-induced causes. Stating that a similar heap leach pad design was approved by the California Regional Water Quality Control Board (CRWQCB) does not satisfy NEPA requirements that an EIS should include full and fair discussion [40 CFR 1502.1] of impacts from various alternatives and provide accurate scientific analysis and expert agency comments [40 CFR 1500.1(b)].

In chapter 2, the DEIS describes the liner system in a very general way. The design utilizes a composite polyvinyl chloride (PVC) liner system with incorporation of geotextile and bedding layers (Figure 2.6 of the DEIS). We note that many mining operations throughout the western U.S. use high density polyethylene (HDPE) liners. The FEIS should describe why a PVC liner is preferred, and discuss compatibility of the system with site and proposed project physical and chemical conditions. BLM should also describe any other applicable operations that use PVC and outline the history of regulatory compliance with respect to liner performance. Furthermore, we ask that BLM explain the significance of the geotextile placement, and what assurances (compatibility tests, etc.) have been taken to assure that ore or bedding layer material would not

puncture the PVC layers. The potential for UV damage to the geotextile or liner should also be discussed in the FEIS.

BLM describes the affected environment as a seismically active area, although no known active fault traces underlie the site. The leach pad is designed for internal storage of all cyanide-bearing solutions. As such, the perimeter berm is essentially acting as a dam. The FEIS should provide additional, scientifically based comments to explain how the facilities would be designed to withstand anticipated seismic events, and applicable regulations. EPA is also concerned about a potential breach of the perimeter berm. What are the design criteria with respect to static and pseudo-static loading and what is the factor of safety? These criterion are routinely used to assure conformance of a project design within regulatory requirements. The use and function of these criteria, if applicable, and a rationale for the selected values, should be provided in the FEIS. Also, if low permeability clay material is used in later heap leach pad construction, could this possible design change induce heap instability or failure? Would a switch to the clay liner system require additional permitting? The FEIS should address these issues.

The combined heap leach facility, including process and overflow ponds is designed to contain the maximum probable one (1)-hour storm event, occurring simultaneously with a 24-hour power outage. BLM should explain in the FEIS why the one hour event was chosen, and also if backup power would be available in the event of a longer power outage or unforseen events that would reduce estimated storage capacity in the heap or ponds.

Pit Lakes

BLM should explain why backfilling of the west pit could not occur if mining is suspended or terminated early (pg. 4-55), especially if enough waste rock is available. We recommend that additional bonding be required for this contingency. Under this scenario, BLM should provide further justification why there would not be significant impacts to biologic resources if a pit lake were to form. These issues should be fully discussed in the FEIS, including monitoring and mitigation provisions in event of early mine closure.

ENVIRONMENTAL JUSTICE/AMERICAN INDIAN RELIGIOUS FREEDOM

EPA is seriously concerned about possible unavoidable significant impacts to Native American cultural and paleontological resources, including impacts related to the use of sacred sites. We commend BLM for including Appendix L, *Where Trails Cross: Cultural Resource Inventory and Evaluation for the Imperial Project, Imperial County, California*, which describes some of the spiritual beliefs of the Quechan and suggests that the proposed mine could significantly affect, possibly destroy, the use of the site by the Quechan people. According to the DEIS, "physical disturbance within the project mine and process area will occur to significant Native American

trails and will cut-off the ability of the Quechan to travel physically and spiritually along the Trail of Dreams." The religious significance and the significance of the Trail of Dreams as an integral part of Quechan religious practice is also explained.

The American Indian Religious Freedom Act (AIRFA, or the Act) of 1978 (PL 95-341; 42 USC 1978), in Section 1 states that it is:

> "...the policy of the United States to protect and preserve for American Indians their inherent right of freedom to believe, express, and exercise the traditional religions of the American Indian... including but not limited to access to sites, use and possession of sacred objects, and freedom to worship through ceremonials and traditional rites."

House Report No. 95-1308 (legislative history of the Act) also states that "... denial of access to Indians...to certain [sacred] sites... is analogous to preventing a non-Indian from entering his church or temple." The intent of this legislation (as stated in Section 2) is to ensure that the policies and procedures of various Federal agencies would be in conformance with the Act. Similarly, Executive Order 13007, "Indian Sacred Sites," directs agencies to "avoid adversely affecting the physical integrity of... sacred sites." Initiation of consultation with Native American tribes is commendable, but is also the only response to mandates of AIRFA that the DEIS acknowledges. The FEIS should contain an in-depth discussion of the range of orders, acts, and guidance related to Native American issues associated with the Proposed Action.

On page 4-126 of the DEIS, BLM states that it has limited agency discretion, deferring to "Section 3 of the 1872 Mining Act... [that] gives exclusive right of 'possession and enjoyment' of the surface within the boundaries of a valid mining claim to the mining claimant." But Section 101(b) of the National Environmental Policy Act (NEPA) states that "... it is the continuing responsibility of the Federal Government to use all practicable means, consistent with other essential considerations of national policy, to improve and coordinate Federal plans, functions, programs, and resources to the end that the Nation may... preserve important historic, cultural, and natural aspects of our national heritage, and maintain, wherever possible, an environment which supports diversity, and variety of individual choice." In Section 102, NEPA states that "all agencies of the Federal Government shall... [give] appropriate consideration **in decision making** (emphasis added) along with economic and technical considerations."

BLM should discuss the functional relationships and conflicts between the Proposed Action and the objectives of Federal land use plans, policies and controls for the area concerned [40 CFR 1502.16(c)]. BLM should also discuss the Department of Interior's environmental justice strategy, pursuant to Executive Order 12898, and explain how the potentially un-mitigatable impacts resulting from BLM approval of the Proposed Action comport with the guidance provided in the executive order. We recognize that the DEIS does contain a discussion of the cumulative impacts from past mining activities in context of the Quechan culture and religion;

however, BLM should discuss how the preferred alternative, the Proposed Action, in combination with past cumulative effects, is in keeping with the (Federal) goal of achieving environmental justice.

In summary, EPA encourages BLM to fully consider the unique characteristics of the proposed project area, potential environmental justice issues, and Native American concerns in its decision making process.

CUMULATIVE IMPACTS

The recently completed CEQ report, *Considering Cumulative Effects Under the National Environmental Policy Act* contains useful information on methods which BLM could use to craft a more effective cumulative impacts section. A cumulative effects analysis, as described in that publication, should include past present and future actions, including all federal, nonfederal, and private actions. The description of the affected environment should focus on each affected resource or ecosystem. Determination of the affected environment should not be based on a predetermined geographic area, but rather on perception of meaningful impacts and natural boundaries.

The cumulative impact analysis should include an analysis of the anticipated **temporal** effects of water diversions from the combined effects of ongoing or anticipated mining operations. The FEIS should define a hydrologic area of influence and also describe potential cumulative impacts to the nearby tortoise habitat and the wilderness areas. As noted in our comments under "Aquatic Resources", the FEIS should thoroughly assess impacts to functions provided by affected Waters of the U. S.

EPA appreciates a discussion of the surrounding mining activity at American Girl, Picacho and Mesquite. It is very important however, that the FEIS provide more detail on impacts that have resulted from this mining activity. Specifically, the FEIS should include:

- the history of any upset conditions that resulted in the release of significant quantities of cyanide-bearing solution;

- the history of any wildlife kills, including those related to normal operations of pregnant ponds;

- summary of available monitoring data and analyses from other mine sites with environments similar to the proposed Imperial Project;

- information on any measured effects to vegetation resulting from wash diversions;

- information on any quantified or qualified impacts to surrounding ecosystems.

The cumulative impact analysis should also describe, in more detail, the success and/or failures of reclamation activities to date at similar operations. These discussions in the FEIS would be extremely relevant to gage the potential impacts from the proposed project and to possibly craft additional monitoring and enforcement provisions regarding protection of ecological resources

While the DEIS accurately states that "mineral exploration activities are ongoing to some extent at each of the mines within the cumulative impact study area," we do have serious concerns with the premise that the impacts from these mines are of no concern since "...they have already been accounted for in the impacts resulting from the mine operations themselves." (Page 5-5) The purpose of undertaking a cumulative impacts analysis is to examine, discuss, and consider the total scope of impacts being imposed upon the environment rather than focusing only on those impacts directly attributable to a proposed action.

BLM should ensure that the FEIS contains a full disclosure of the true scope of potential incremental impacts resulting from past, present, and reasonably foreseeable future actions pursuant to 40 CFR 1508.7. It is difficult, for example, to envision how existing mine operations could have accounted for all of the incremental impacts which have taken place over time or those which could take place in the future. Specifically, at each of the mines, the location of additional orebodies, the chemical and physical characteristics of those orebodies and the size of future operations and expansions should be factored into the cumulative impacts analysis for the proposed project. For instance, the potential acquisition of federal minerals to expand the Mesquite mine should be discussed in the Cumulative Impacts Section. A better description of the known mineral potential and proven, probable, and possible mineralization within the vicinity of the described mines should also be provided in the FEIS.

In addition, the FEIS should acknowledge and discuss any **known** mineralization, either adjacent to the proposed project or at greater depths, which could possibly be mined in the future - even if it is currently uneconomic. For example, we acknowledge that the orebody at the proposed project site appears to be oxidized and the acid generation potential appears to be low. However, we also understand that substantial quantities of rock at Orocruz (American Girl Project) contain sulfides. The size and duration of the proposed Imperial mining activities suggest that it is possible that sulfide-bearing mineralization and/or waste rock could be encountered in the future which may have an impact on biologic resources. Given that, we would expect that the BLM would discuss in the Cumulative Impacts Section, as appropriate, whether mineralization which could be mined in the future has the potential to be sulfide bearing, and if so, identify the expected impacts from subsequent operations. We also recommend that BLM include monitoring and reporting provisions to safeguard against unexpected quantities of sulfide-bearing material.

Within the context of cumulative impacts, BLM should also discuss traffic from current, proposed, and potential future mine operations; particularly focusing on traffic-related impacts to wildlife.

RECLAMATION

EPA recommends that reclamation activities strive to achieve pre-mining ecosystem attributes. We question the possible modification of the ecosystem by adding the endemic fairy duster and winged forget-me-not to the revegetation mix. This should be discussed in the FEIS. BLM should also include in the FEIS a discussion of the applicability of a reclamation design that focuses re-planting according to compatibility with the post-mining micro-environments. For instance, would south-facing slopes be planted and/or seeded differently than north-facing slopes. A thorough analysis of "successes and failures" at other nearby mine sites should be incorporated into reclamation plans and discussed under cumulative impacts.

BIOLOGIC RESOURCES

EPA has information that several common plant species, known to occur in the area, were not listed in the Vegetation Baseline Survey (Appendix F). Apparently the relatively common species *Pectis papposa* and *Datura discolor* were omitted. The baseline report notes that pre-survey climatic conditions were such that "the results of the vegetation survey should be interpreted as representing the highest cover and diversity possible for the Imperial Project area." EPA therefore questions the credibility of the study and we ask that BLM discuss this issue in the FEIS, and note whether additional survey(s) may be necessary.

Within the CDCA plan, the proposed mine falls within the Indian Wash Habitat Management Plan (HMP), where the objective is to "protect, stabilize, and/or enhance" wildlife resource values in the area. The DEIS notes that the Indian Wash HMP has not been implemented. BLM should explain in the FEIS why the plan has not been implemented and its obligations to protect wildlife resource values in the context of the Proposed Action.

TOXIC RELEASE INVENTORY REPORTING

BLM and Glamis should note that on May 1, 1997, EPA added metal mining to the list of industries that will soon be subject to the reporting requirements of section 313 of the Emergency Planning and Community Right-to-Know Act of 1986 (EPCRA) and section 6607 of the Pollution Prevention Act of 1990 (See 40 CFR Part 372, *Addition of Facilities in Certain Industry Sectors; Revised Interpretation of Otherwise Use; Toxic Release Inventory Reporting;*

Community Right-to-Know; Final Rule, Federal Register: May 1, 1997, pages 23833-23892). Reporting for mining facilities will be effective beginning with the 1998 reporting year. The first reports from all metal mining facilities must be submitted to EPA and the State by July 1, 1999. For specific information regarding the final rule, you may wish to call Mr. Tim Crawford, EPA Headquarters, at (202) 260-1715; e-mail: crawford.tim@epamail.epa.gov.

D-COE-K32049-CA

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105-3901

DEC 05 1997

Craig Vassel
Planning Branch, San Francisco District
U.S. Army Corps of Engineers
333 Market Street
San Francisco, California 94105

Dear Mr. Vassel:

The U.S. Environmental Protection Agency (EPA) has reviewed the Draft Environmental Impact Statement/Report (DEIS/R) for the **SAN FRANCISCO BAY TO STOCKTON PHASE III (JOHN F. BALDWIN) NAVIGATION CHANNEL PROJECT, CALIFORNIA**. Our comments are provided pursuant to the National Environmental Policy Act (NEPA), Section 309 of the Clean Air Act, and the Council on Environmental Quality's Regulations for Implementing NEPA (40 CFR 1500-1508). In addition, our comments on Clean Water Act (CWA) Section 404 issues are advisory and in keeping with the 404(b)(1) Guidelines since the Corps has to issue a Section 404 permit for the proposed project.

The DEIS/R analyzes the impacts of a proposal to improve the delivery of petroleum to refineries, storage terminals and other facilities in the East Bay. Two basic approaches have been developed to attain the project's purpose and need: deepening approximately 16 miles of existing navigation channels, and construction, rehabilitation and operation of a pipeline system and associated facilities. Channel deepening would provide improved direct access for large oil tankers to the refineries and terminals located adjacent to the Carquinez Strait, reduce vessel-to-vessel lightering of crude oil, and reduce tanker traffic in the Bay. The pipeline system would involve rehabilitation and operation of an existing 35-mile-long pipeline from Richmond to Pittsburg or construction of a new 20-inch pipeline, improvements to an existing pumping station in Hercules, additional connections to a Pacific Gas and Electric Pipeline and other new facilities.

Although the DEIS/R analyzes a large number of subalternatives for dredged material disposal (six disposal options at four disposal sites) and various options for the pipeline system alternative, the document assesses what are essentially four alternatives: Channel Deepening Alternative; Pipeline System Alternative; Combination Alternative (pipeline system and deepening of all areas considered for channel deepening but to -40 feet instead of -45 feet proposed under Channel Deepening); and No Action. Although the DEIS/R identifies a "Recommended Plan," the Corps has not identified a "preferred alternative" in the DEIS/R (see 40 CFR 1502.14(e)). Because a preferred alternative was not identified, we have assigned individual ratings to the four alternatives for the reasons stated below. Please refer to the "Summary of Rating Definitions and Follow-Up Action" (attached) for a more detailed explanation of EPA's rating system for DEIS's.

DEC 0 5 1997

We appreciate the opportunity to comment on the DEIS/R. Please send one copy of the FEIS/R to me (mailcode: CMD-2) at the letterhead address when it is filed with EPA's Washington, D.C. office. If you have any questions regarding our comments or want to meet with EPA to discuss these comments, please contact my staff reviewer for this document, David Tomsovic, Federal Activities Office, at 415-744-1575.

Sincerely,

Deanna M. Wieman

Deanna M. Wieman, Deputy Director
Cross Media Division

#002972

cc: Roberta Goulart, Contra Costa County
Nancy Kaufman, City of Richmond

Attachments: 3
(1) Summary of Rating Definitions and Follow-Up Action
(2) Detailed EPA Comments
(3) Pollution Prevention Checklists

EPA COMMENTS: DRAFT EIS/EIR FOR SAN FRANCISCO BAY TO STOCKTON PHASE III (JF BALDWIN) NAVIGATION CHANNEL PROJECT. December 1997

CHANNEL DEEPENING AND ADVERSE WATER QUALITY IMPACTS

EPA objects to channel deepening to the extent that such deepening is inconsistent with established Water Quality Standards and to the extent that such adverse water quality impacts could not be adequately mitigated by the Corps, Contra Costa County and/or the City of Richmond. Specifically, the DEIS/R acknowledges that channel deepening to a proposed -45 feet "would result in increased salinity in the Suisun Bay area and the lower reaches of the Delta, resulting in exceedances of applicable salinity standards." (p. 7-7). Increased salinity would have adverse consequences for municipal drinking water supplies and fish and wildlife resources as well. Page 7-7 further indicates that this impact is unavoidable and that the release of additional fresh water from the Delta "is not considered a viable mitigation measure." We object to channel deepening until the Corps' NEPA documentation for the proposed project clearly demonstrates that adverse water quality impacts can be sufficiently avoided and/or adequately mitigated to remain in compliance with applicable standards. Our objections to the adverse water quality effects associated with channel deepening apply to both the Channel Deepening Alternative and the Combination Alternative because, even though less dredging is proposed under the combination, that alternative has essentially all of the impacts of the two component alternatives, according to page 8-3 of the DEIS/R.

SECTION 404

Section 3.8 of Appendix K (Section 404(b)(1) Preliminary Evaluation) is titled "*Appropriate and Practicable Steps Taken to Minimize Potential Adverse Impacts of the Discharge on the Aquatic Ecosystem.*" However, there is no specific discussion in this section about how the Corps intends to avoid and minimize adverse impacts to aquatic resources due to the placement of dredged or fill material, as required by the 404(b)(1) Guidelines. Instead, this section discusses a variety of mitigation measures, some of which are compensatory: transplanting eelgrass if needed, monitoring eelgrass recovery at the site, minimizing impacts of turbidity by use of silt curtains, etc. There is no specific discussion about how fill impacts would be avoided and minimized before the compensatory mitigation is instituted.

Section 3.9 of Appendix K indicates that "Available evidence does not support the conclusion that the recommended plan is the least damaging practicable alternative, as required under the 404(b)(1) Guidelines." We appreciate the preliminary 404(b)(1) analysis and recommend that the FEIS/R clearly portray whether the final preferred alternative is actually the least damaging practicable alternative required under Section 404. The 404(b)(1) analysis in the FEIS/R should clearly indicate whether all appropriate measures have been taken to avoid and minimize the placement of dredged or fill material in waters of the United States, wetlands and other aquatic habitats protected under Section 404 (see discussion above regarding how Section 3.8 does not specifically address this).

POLLUTION PREVENTION OPPORTUNITIES

The DEIS/R did not address pollution prevention features in the proposed project to the extent recommended by the Council on Environmental Quality in the January 29, 1993 *Federal Register*. The proposed project could be strengthened by specifically designing and constructing the project with pollution prevention features as an integral element. We have enclosed two pollution prevention checklists (dredging; pipelines) for use in developing the FEIS/R and Record of Decision. Although specific items on the checklists may not apply or have already been identified or committed to in the DEIS/R, other measures may prove feasible as the project proceeds. Appropriate pollution prevention measures should be included in the FEIS/R and commitments contained in the Corps' Record of Decision.

EDITORIAL COMMENTS - CLARIFYING LANGUAGE

p. S-4, lines 21-22 - The sentence states that 7 million cubic yards (mcy) of dredged material is to be disposed of at Hamilton Army Airfield for restoration at the Montezuma site. The Hamilton Army Airfield and Montezuma Wetlands Project (MWP) are two separate disposal site alternatives.

p. S-5, line 1 - The stated decreased potential for large oil spills is not borne out by the comparison of impacts in Table S-2 (pp. S-17 to S-18). In fact, the above-water pipeline which would be used with the extended pier option has a slightly lower risk of oil spill (cf. Table S-3 on p. S-19).

p. S-6, line 21 - Public concerns are discussed in section 1.7, not section 1.6.

Table S-5 (pp. S-22 to S-23) - Under Biological Resources the Alternate Route 1 pipeline is said to be shorter (it is not). Under System Safety the pipeline in Alternate Route 2 is said to be shorter. The FEIS/R should correct these type of discrepancies.

p. 3-7, lines 30-32 - Total butyltins are higher in J.F. Baldwin shipping channel than at the ocean reference area (cf. Table 3.2-1). This is not indicated in the text.

p. 3-4, section 3.1.2 - Were the percent TOC, nutrient levels and sediment grain size evaluated for the suitability of the dredged material for wetland restoration (preferred disposal option 5)? TOC and grain size information are provided in the DEIS/R but no evaluation is made as to whether they are appropriate for wetland restoration. (TOC is evaluated to ensure that it is below wetland cover concentrations, but no analysis is provided as to whether the TOC present is sufficient to allow the growth of salt marsh plants.) Low contaminant concentrations do not ensure the establishment of a functioning wetland ecosystem. Appropriate percent TOC, nutrient levels and sediment grain size are critical parameters for successful restoration.

p. 3-10, line 6 - A finding of significant bioaccumulation in only one of the two species is sufficient grounds for concern. Although PAHS and pesticides were found to significantly bioaccumulate, their sediment concentrations were low relative to the reference site. Metals were found to bioaccumulate, but the level of bioaccumulation was low.

p. 3-10, line 7 - The FEIS/R should clarify whether it is acceptable to compare the level of bioaccumulated contaminants in clams and polychaete worms with FDA action levels for fish and shellfish? The extent and rate of bioaccumulation can differ significantly between species. If the comparison is being made to show that biomagnification is a concern or for some other reason, the FEIS/R should explain the basis for the comparison.

p. 5.4-22, line 44 - Are arsenic levels found in the sediments of Hamilton Army Airfield comparable to those in the dredged sediments? If they are not, they should not be disposed of at the Airfield unless appropriate mitigation is undertaken. Just because sediment arsenic levels in the San Francisco Bay area tend to be elevated does not absolve the project proponent from appropriate mitigation.

p. 5.6-25, line 3 - How will attainment of project goals (i.e., successful wetlands restoration) be measured?

p. 5.11-26 - What mitigation measures will be taken to minimize the risk of anchor dragging causing damage to the submerged pipelines (cf. p. 5.11-9, lines 16-17).

p. 8-2, lines 5-5 and 26 - There is an apparent discrepancy between these sentences with regard to the potential for an oil spill from the free-standing wharf option.

p. A-12, section A1.2, last sentence - The values reported here (. 2 *m*g/kg dry weight) and in Table A.2 for butyltin concentrations in the JFBSC differ from that in Table 3.2-1 on p. 3-8.

- Will measures be taken to minimize potential impacts on fisheries and aquatic resources?

- Have alternatives to dredging or alternatives that would reduce the amount of material to be disposed of, habitat destruction, and/or disposal-related impacts been considered? Options might include choosing an alternative site, extending the length of the pier to reach deep water, or reconfiguring dockage space to accommodate vessels into a smaller area.

- Have all environmentally sensitive areas been characterized? Have attempts been made to avoid dredging in environmentally sensitive areas? *

- Are measures considered to reduce or eliminate the pollution generated from dredging equipment and operations? Will sediments containing hazardous constituents be contained during dredging operations?

- Will hazardous materials needed for onsite heavy equipment maintenance and operation (e.g., fuels, solvents, greases) be properly stored and managed?

Ecosystem Concerns/Disposal of Dredged Materials. Dredging and dredged materials disposal in marine environments may have significant effects, including the disturbance of benthic environments, suspension of sediments, plume migration and introduction of potentially hazardous constituents (including heavy metals), and other negative impacts on water quality. By implementing various techniques, however, these impacts may be reduced or eliminated.

- Will measures be taken to minimize the introduction of contaminated dredged materials to benthic and other aquatic environments?

- Will techniques be used to reduce or minimize the suspension of sediments during dredging and or dredge disposal?

- Does the selection of marine disposal sites include criteria to create the least impact on aquatic life, water quality, plume migration, and sediment suspension?

- Has clean material been identified for use as a cap on toxic materials deposited in marine disposal?

Transporting Dredged Materials. Dredged materials must be transported from the original dredge site to the location of beneficial use or to disposal in either upland or marine disposal sites. The transportation of toxic materials presents significant threats to the environment in the event of a spill, accident, or other release. By addressing and utilizing pollution prevention techniques, these threats can be reduced or minimized.

- Has the dredging plan considered the need to transport potentially toxic dredged materials and taken steps to prevent spills during transportation?

- Have the safest and least populated routes of travel been identified for transporting toxic dredged materials that are unsuitable for beneficial use to the ultimate disposal site?

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* Indicates an environmental impact reduction opportunity.

POLLUTION PREVENTION/ENVIRONMENTAL IMPACT REDUCTION CHECKLIST FOR NATURAL GAS PIPELINES

How Can Natural Gas Pipelines Affect the Environment?

The siting, construction, operation, and maintenance of natural gas pipelines and associated systems can pose several risks to the environment. The risks from pipelines derive primarily from the operation and maintenance of compressor stations required to push gases through pipe bores over considerable distances. Such risks include releases of oxides of nitrogen, metals, formaldehyde, and BETX from combustion-powered compressors, generation of used oils and solvents from maintenance of compressors, and releases of fuel oils and other materials stored onsite. The potential impacts of pipelines may also include destruction or alteration of wildlife habitats, erosion, sedimentation, releases of product or fires resulting from pipeline ruptures, and generation of pipeline cleaning wastes. Some pipeline compression operations may include substantial capacity for underground and/or tank storage of the product. Such stations, therefore, may perform gas conditioning activities in addition to compression. The risks from gas condition operations may include releases of dehydrator regeneration condensate (containing BETX and other hydrocarbon contaminants), releases of hydrogen sulfide gas and/or products of incomplete combustion, generation of used oils, solvents, and filter media from conditioning circuit operation and maintenance, and generation of used desiccants and sweetening agents.

Also see checklists on Ecosystem Preservation and Protection, Siting, Oil and Gas Projects, and Highways and Bridges.

What Questions Should Be Asked To Ensure That These Effects Are Minimized or Eliminated?

Siting

- Will pipeline segments transect sensitive ecosystems? Can these segments be rerouted to avoid sensitive areas to the maximum extent possible? Can underground or elevated structures be employed to minimize impacts? *
- Can site preparation and construction activities be timed to avoid disturbing plants and animals during crucial seasons in their life cycles, such as mating? *
- Will access points be limited as practicable to minimize disturbance? *
- Will roads be built according to best management practices (BMPs)?
- Are compression, storage, and conditioning stations, as well as site access roads, located away from wetlands and other sensitive areas?
- Can conditioning activities be minimized or avoided by controlling pipeline feed quality? *
- Can any of the pipeline be co-located with existing pipelines or other rights of ways to minimize the disturbance of other undeveloped lands?

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* Indicates an environmental impact reduction opportunity.